

Owner's Manual

Models: SMARTINT2200VS & SMARTINT3000VS

Intelligent, Line-Interactive UPS Systems (Tower Configuration)

• 230V Input • 2200VA - 3000VA Capacities • Extended-Run Options*

* SMARTINT3000VS model



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Customer Support: (773) 869-1234 • www.tripplite.com



SAVE THESE INSTRUCTIONS

This manual contains instructions and warnings that should be followed during the installation, operation and storage of all Tripp Lite UPS Systems.

UPS Location Warnings

- Install your UPS indoors, away from excess moisture or heat, conductive contaminants, dust or direct sunlight.
- For best performance, keep the indoor temperature between 32° F and 104° F (0° C and 40° C).
- Leave adequate space around all sides of the UPS for proper ventilation.
- Do not install the UPS near magnetic storage media, as this may result in data corruption.

UPS Connection Warnings

- Connect your UPS directly to a properly grounded AC power outlet. Do not plug the UPS into itself; this will damage the UPS.
- Do not modify the UPS's plug, and do not use an adapter that would eliminate the UPS's ground connection.
- Do not use extension cords to connect the UPS to an AC outlet. Your warranty will be voided if anything is used to connect your UPS to an outlet.
- If the UPS receives power from a motor-powered AC generator, the generator must provide clean, filtered, computer-grade output.

Equipment Connection Warnings

- Do not use Tripp Lite UPS Systems for life support applications in which a malfunction or failure of a Tripp Lite UPS System could cause failure or significantly alter the performance of a life-support device.
- Do not connect surge suppressors or extension cords to the output of your UPS.

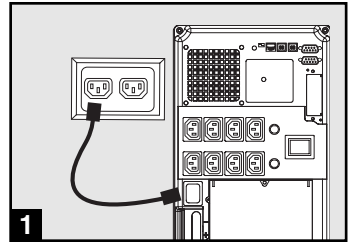
Battery Warnings

- Batteries can present a risk of electrical shock and burn from high short-circuit current. Observe proper precautions. Do not dispose of the batteries in a fire. Do not open the UPS or batteries. Do not short or bridge the battery terminals with any object. Unplug and turn off the UPS before performing battery replacement. Use tools with insulated handles. There are no user-serviceable parts inside the UPS. Battery replacement should be performed only by authorized service personnel using the same number and type of batteries (sealed Lead-Acid). The batteries are recyclable. Refer to your local codes for disposal requirements or in the USA only call 1-800-SAV-LEAD or 1-800-8-BATTERY (1-800-8-228-8379) or visit www.rbc.com for recycling information. Tripp Lite offers a complete line of UPS System Replacement Battery Cartridges (R.B.C.). Visit Tripp Lite on the Web at www.tripplite.com to locate the specific replacement battery for your UPS.
- If your UPS model is equipped with an external battery connector, only connect Tripp Lite battery packs of the appropriate type and correct voltage. Do not connect or disconnect external batteries while the UPS is operating from battery.

Quick Installation

- 1 Insert a user-supplied power cord (with country-specific plug) into the UPS System's IEC-320-C20 AC Input Receptacle. Plug the cord into an AC wall outlet.**

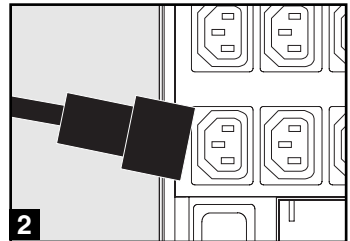
NOTE! After you plug the UPS into a live AC outlet, the UPS (in "Standby" mode) will automatically charge its batteries, but will not supply power to its outlets until it is turned ON.



Shown: SMARTINT2200VS

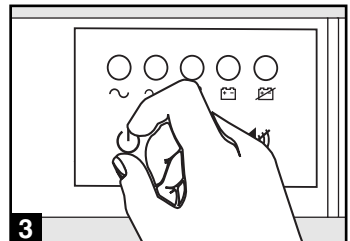
- 2 Using the jumper cords supplied with the UPS, plug your equipment into the UPS.***

** Order additional jumper cords from Tripp Lite. Call (773) 869-1234; order part # P004-006. Your UPS is designed to support only computer equipment. You will overload the UPS if the total VA ratings for all the equipment you connect exceeds the UPS's Output Capacity (see Specifications). To find your equipment's VA ratings, look on their nameplates. If the equipment is listed in amps, multiply the number of amps by 230 to determine VA. (Example: 1 amp \times 230 = 230 VA). If you are unsure if you have overloaded the UPS's outlets, see "OUTPUT LOAD LEVEL" LED description.*



- 3 Turn the UPS ON.**

Press and hold the "ON/OFF/STANDBY" button for one second. The alarm will beep once after one second has passed. Release the button.

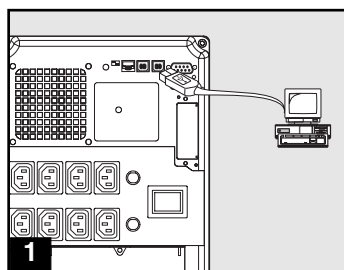


Optional Installation

These connections are optional. Your UPS will function properly without these connections.

1 USB Communications

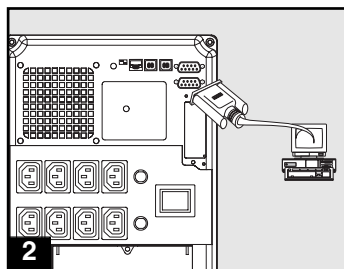
Use the included USB cable to connect the USB port of your computer to the USB port of your UPS. Install on your computer the Tripp Lite PowerAlert Software appropriate to your computer's operating system. Your UPS may feature additional communications ports; these ports may also be connected to additional computers which have PowerAlert Software installed. Consult your PowerAlert manual for more information.



Shown: SMARTINT2200VS

2 RS-232 Serial Communications

If your computer is equipped with a DB9 serial port, use the included serial cable to connect the DB9 port of your computer to the DB9 port of your UPS. Install on your computer the Tripp Lite PowerAlert Software appropriate to your computer's operating system. Your UPS may feature additional communications ports; these ports may also be connected to additional computers which have PowerAlert Software installed. Consult your PowerAlert manual for more information.



3 External Battery Connection

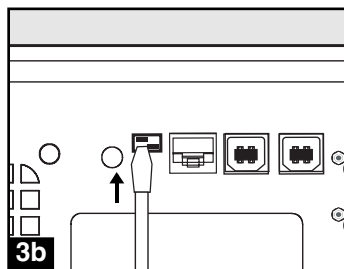
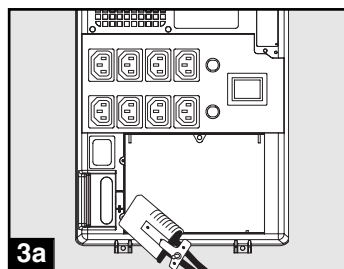
(select models)

Your UPS comes with a robust internal battery system; external batteries are only needed to extend runtime. Adding external batteries will increase recharge time as well as runtime.

The illustration (see 3a) shows the location of your UPS's External Battery Connector, where you will insert the battery pack cable. Complete installation instructions for your battery pack appear in the battery pack's owner's manual. Make sure that cables are fully inserted into their connectors. Small sparks may result during battery connection; this is normal.

Do not connect or disconnect battery packs when the UPS is running on battery power.

If you connect any external batteries, set the Battery Charge Level Switch (see 3b) to the up position. This will increase your UPS's charger output so the additional batteries charge faster. Note: the switch to the right of the Battery Charge Level Switch is inactive and will not affect UPS operation regardless of its position.



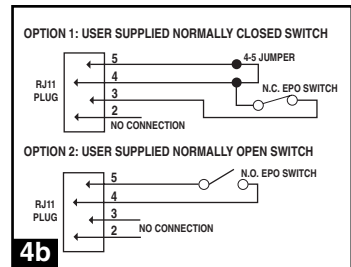
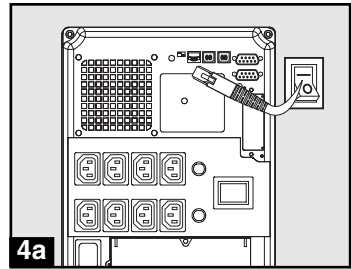
CAUTION! DO NOT set the Battery Charge Level Switch to the up position without an external battery connected. There is a risk of damaging the UPS's internal battery system.

Optional Installation

4 EPO Port Connection

This optional feature is only for those applications which require connection to a facility's Emergency Power Off (EPO) circuit. When the UPS is connected to this circuit, it enables emergency shutdown of the UPS's inverter.

Using the cable provided, connect the EPO port of your UPS (see **4a**) to a user-supplied normally closed or normally open switch according to the circuit diagram (see **4b**). The EPO port is not a phone line surge suppressor; do not connect a phone line to this port.



Basic Operation

Buttons



“ON/OFF/STANDBY” Button

- **To turn the UPS ON:** with the UPS plugged into a live AC wall outlet,* press and hold the ON/OFF/STANDBY button for one second.** Release the button. If utility power is absent, you can “cold-start” the UPS (i.e.: turn it ON and supply power for a limited time from its batteries***) by pressing and holding the ON/OFF/STANDBY button for one second.**
- **To turn the UPS OFF:** with the UPS ON and receiving utility power, press and hold the ON/OFF/STANDBY button for one second.** Then unplug the UPS from the wall outlet. The UPS will be completely OFF.

** After you plug the UPS into a live AC outlet, the UPS (in “Standby” mode) will automatically charge its batteries, but will not supply power to its outlets until it is turned ON.*

*** The alarm will beep once briefly after the indicated interval has passed. *** If fully charged.*



“MUTE/TEST” Button

- **To Silence (or “Mute”) UPS Alarms:** briefly press and release the MUTE/TEST button.
- **To Run a Self-Test:** with your UPS plugged in and turned ON, press and hold the MUTE/TEST button for two seconds.* Continue holding the button until the alarm beeps several times and the UPS performs a self test. See “Results of a Self-Test” below. Note: you can leave connected equipment on during a self-test. Your UPS, however, will not perform a self-test if the UPS is not turned on (see “ON/OFF/STANDBY” Button description).

CAUTION! Do not unplug your UPS to test its batteries. This will remove safe electrical grounding and may introduce a damaging surge into your network connections.

Results of a Self-Test: the test will last approximately 10 seconds as the UPS switches to battery to test its load capacity and battery charge.

- If the “OUTPUT LOAD LEVEL” LED remains lit red and the alarm continues to sound after the test, the UPS’s outlets are overloaded. To clear the overload, unplug some of your equipment and run the self-test repeatedly until the “OUTPUT LOAD LEVEL” LED is no longer lit red and the alarm is no longer sounding.

CAUTION! Any overload that is not corrected by the user immediately following a self-test may cause the UPS to shut down and cease supplying output power in the event of a blackout or brownout.

- If the “BATTERY WARNING” LED remains lit and the alarm continues to sound after the test, the UPS batteries need to be recharged or replaced. Allow the UPS to recharge continuously for 12 hours, and repeat the self-test. If the LED remains lit, contact Tripp Lite for service. If your UPS requires battery replacement, visit www.tripplite.com to locate the specific Tripp Lite replacement battery for your UPS.

** The alarm will beep once briefly after the indicated interval has passed.*

Indicator Lights (Front Panel)

All Indicator Light descriptions apply when the UPS is plugged into a wall outlet and turned ON.



“POWER” LED: this green LED lights continuously when the UPS is ON and supplying connected equipment with AC power from a utility source. The LED flashes and an alarm sounds (4 short beeps followed by a pause) to indicate the UPS is operating from its internal batteries during a blackout or severe brownout. If the blackout or severe brownout is prolonged, you should save files and shut down your equipment since internal battery power will eventually be depleted. See “BATTERY CHARGE” LED description below.



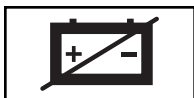
“VOLTAGE CORRECTION” LED: this green LED lights continuously whenever the UPS is automatically correcting high or low AC voltage on the utility line without the assistance of battery power. The UPS will also emit a slight clicking noise. These are normal, automatic operations of the UPS, no action is required on your part.



“OUTPUT LOAD LEVEL” LED: this multicolored LED indicates the approximate electrical load of equipment connected to the UPS’s AC outlets. It will turn from green (light load) to yellow (medium load) to red (overload). If the LED is red (either illuminated continuously or flashing), clear the overload immediately by unplugging some of your equipment from the outlets until the LED changes from red to yellow (or green) and the alarm is no longer sounding. CAUTION! Any overload that is not corrected by the user immediately may cause the UPS to shut down and cease supplying output power in the event of a blackout or brownout.



“BATTERY CHARGE” LED: when the UPS is operating from utility power, this LED indicates the approximate charge state of the UPS’s internal batteries: red indicates the batteries are beginning to charge; yellow indicates the batteries are roughly midway through charging; and green indicates the batteries are fully charged. When the UPS is operating from battery power during a blackout or severe brownout, this LED indicates the approximate amount of energy (ultimately affecting runtime) which the UPS’s batteries will provide: red indicates a low level of energy; yellow indicates a medium level of energy; and green indicates a high level of energy. Since the runtime performance of all UPS batteries will gradually deplete over time, it is recommended that you periodically perform a self-test (see MUTE/TEST Button description) to determine the energy level of your UPS batteries BEFORE a blackout or severe brownout occurs. During a prolonged blackout or severe brownout, you should save files and shut down your equipment since battery power will eventually be depleted. When the LED turns red and an alarm sounds continuously, it indicates the UPS’s batteries are nearly out of power and UPS shut down is imminent.



“BATTERY WARNING” LED: this LED lights red and an alarm sounds intermittently after you initiate a self test (See “MUTE/TEST” Button description) to indicate the UPS batteries need to be recharged or replaced. Allow the UPS to recharge continuously for 12 hours, and repeat the self-test. If the LED continues to light, contact Tripp Lite for service. If your UPS requires battery replacement, visit www.triplite.com to locate the specific Tripp Lite replacement battery for your UPS.

Other UPS Features (Back Panel)



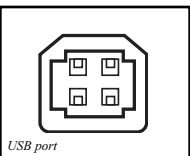
IEC320-C13 (female)



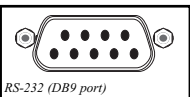
IEC320-C19 (female)



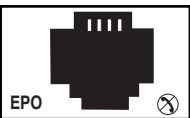
IEC320-C20 (male)



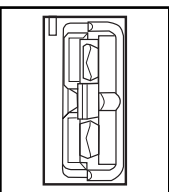
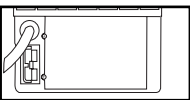
USB port



RS-232 (DB9 port)



EPO



AC Output Receptacles: Your UPS features IEC320-C13 AC outlets, and select models also feature IEC320-C19 AC outlets. These output receptacles provide your connected equipment with AC line power during normal operation and battery power during blackouts and brownouts. The UPS protects equipment connected to these receptacles against damaging surges and line noise. If you have a serial or USB connection to your UPS, you can remotely reboot connected equipment by turning the receptacles OFF and ON using Tripp Lite's PowerAlert Software. Select models have their receptacles divided into one or more load banks (labeled "LOAD 1," etc.) which may be remotely switched OFF and ON using Tripp Lite UPS software without interrupting power to equipment connected to the other outlets. See software instructions for details.

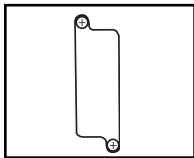
AC Input Receptacle: This receptacle accepts a user-supplied power cord (with country-specific plug).

Communication Ports (USB or RS-232): These ports connect your UPS to any workstation or server. Use with Tripp Lite's PowerAlert Software and included cables to enable your computer to automatically save open files and shut down equipment during a blackout. Also use PowerAlert Software to monitor a wide variety of AC line power and UPS operating conditions. Consult your PowerAlert Software manual or contact Tripp Lite Customer Support for more information. See "USB Communications" and "RS-232 Serial Communications" in the "Optional Installation" section for installation instructions.

EPO Port (select models): Your UPS features an EPO port that may be used to connect the UPS to a contact closure switch to enable emergency inverter shutdown. See "EPO Port Connection" in the "Optional Installation" section.

Battery Replacement Door: Under normal conditions, the original battery in your UPS will last several years. Battery replacement should be performed only by qualified service personnel. Refer to "Battery Warnings" in the Safety section. Should your UPS require battery replacement, visit Tripp Lite on the Web at www.tripplite.com to locate the specific replacement battery for your UPS.

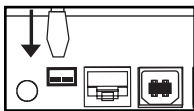
External Battery Connector (select models): Use to connect one or more Tripp Lite battery packs for additional runtime. Refer to Specifications and/or the label next to the connector to determine the appropriate variety of battery pack to use. Refer to the battery pack instruction manual for complete installation information and important safety warnings. See "External Battery Connection" in the "Optional Installation" section.



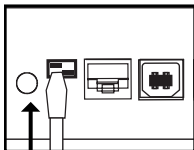
Accessory Slot: Remove the small cover panel from this slot to install optional accessories to remotely monitor and control your UPS. Refer to your accessory's manual for installation instructions. Contact Tripp Lite Customer Support at (773) 869-1234 for more information, including a list of available SNMP, networking management and connectivity products.



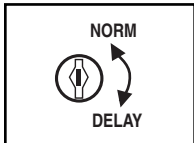
Output Breakers: Your UPS features one or more breakers that protect your UPS from output overload. If one or more breakers trip, remove some of the load on the circuit(s), then reset them by pressing the breaker switch(es) in.



Charge Rate Setting (when External Batteries are not connected)



Charge Rate Setting (when External Batteries are connected)



Battery Charge Level Switch (select models): Select models feature a switch that controls the UPS system's battery charge rate. If you connect any external batteries, set the Battery Charge Level Switch to the up position. This will increase your UPS's charger output so the additional batteries charge faster. Note: the switch to the right of the Battery Charge Level Switch is inactive and will not affect UPS operation regardless of its position.

CAUTION! DO NOT set the Battery Charge Level Switch to the up position without an external battery connected. There is a risk of damaging the UPS's internal battery system.

Power Sensitivity Adjustment: This dial is normally set fully counter-clockwise, which enables the UPS to provide maximum protection against waveform distortions in its AC input. When such distortion occurs, the UPS will normally switch to providing PWM sine wave power from its battery reserves for as long as the distortion is present. In areas with poor utility power or where the UPS's input power comes from a backup generator, chronic waveform distortion could cause the UPS to switch to battery too frequently, draining its battery reserves. You may be able to reduce how often your UPS switches to battery due to moderate waveform distortion by experimenting with different settings for this dial. As the dial is turned clockwise, the UPS becomes more tolerant of variations in its input power's AC waveform. NOTE: The further the dial is adjusted clockwise, the greater the degree of waveform distortion the UPS will allow to pass to connected equipment. When experimenting with different settings for this dial, operate connected equipment in a safe test mode so that the effect on the equipment of any waveform distortions in the UPS's output can be evaluated without disrupting critical operations.

Storage & Service

Storage

Before storing your UPS, turn it completely OFF: with the UPS ON and receiving utility power, press and hold the ON/OFF/STANDBY button for one second (an alarm will beep once briefly after the interval has passed); then, unplug the UPS from the wall outlet. If you store your UPS for an extended period of time, recharge the UPS batteries once every three months: plug the UPS into a wall outlet; allow it to charge for up to 4 hours; and then unplug it and place it back in storage. Note: after you plug the UPS in, it will automatically begin charging its batteries; however, it will not supply power to its outlets (see Quick Installation section). If you leave your UPS batteries discharged for an extended period of time, they will suffer a permanent loss of capacity.

Service

Before returning your UPS for service, follow these steps:

1. Review the installation and operation instructions in this manual to ensure that the service problem does not originate from a misreading of the instructions. Also, check that the UPS System's circuit breaker(s) are not tripped. This is the most common cause of service inquiries which can be easily remedied by following the resetting instructions in this manual.
2. If the problem continues, do not contact or return the UPS to the dealer. Instead, call Tripp Lite at (773) 869-1233. A service technician will ask for the UPS's model number, serial number and purchase date and will attempt to correct the problem over the phone.
3. If the problem requires service, the technician will issue you a Returned Material Authorization (RMA) number, which is required for service. If you require packaging, the technician can arrange to send you proper packaging. Securely pack the UPS to avoid damage during shipping. Do not use Styrofoam beads for packaging. Any damages (direct, indirect, special, incidental or consequential) to the UPS incurred during shipment to Tripp Lite or an authorized Tripp Lite service center is not covered under warranty. UPS Systems shipped to Tripp Lite or an authorized Tripp Lite service center must have transportation charges prepaid. Mark the RMA number on the outside of the package. If the UPS System is within the 2-year warranty period, enclose a copy of your sales receipt. Return the UPS for service using an insured carrier to the address given to you by the Tripp Lite service technician.

Specifications

Tripp Lite has a policy of continuous improvement. Specifications are subject to change without notice.

Model:	SMARTINT2200VS	SMARTINT3000VS
Series #:	AGSM4839	AGSM4840
Input		
Nominal Voltage/Frequency:	230VAC 50/60 Hz	230VAC 50/60 Hz
Output		
Capacity (VA/Watts):	2200/1600	3000/2250
On Line Nominal Voltage/Waveform:	230VAC/sine wave	230VAC/sine wave
On Battery Nominal Voltage/Waveform:	230VAC/PWM sine wave	230VAC/PWM sine wave
Battery Runtime (Half Load/Full Load) Minutes:	19/7	14/4+
Battery Recharge Time:	2-4 hrs.	2-4 hrs.
Approvals:	CE, GOST, SASO, IIRAM	CE, GOST, SASO, IIRAM

ALL UNITS: Voltage-Regulated Output Voltage Range: -18% / +8%. On-Battery Output Voltage Range: $\pm 5\%$. AC Surge Suppression (exceeds IEEE 587 Cat. A & B standards); AC Noise Attenuation (>40 dB at 1MHz); AC Protection Modes (H to N, H to G, N to G).

*+ Battery runtime can be extended with addition of optional Tripp Lite External Battery Pack (sold separately). SMARTINT3000VS uses BP48V18 battery pack. External battery will increase both the battery runtime and the battery recharge time.

Note on Labeling

Two symbols are used on the label.

V~ : AC Voltage

V--- : DC Voltage



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